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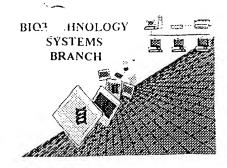
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FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216. PATENTIN 2.1 c-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax) PATENTIN 3.0 c-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

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ERROR DETECTED SUGGESTED CORRECTION SERIAL NUMBER ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE The number/text at the end of each line "wrapped" down to the next line. Wrapped Nucleics This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, as this will prevent "wrapping". Wrapped Aminos The amino acid number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, as this will prevent "wrapping". Incorrect Line Length The rules require that a line not exceed 72 characters in length. This includes spaces. Misaligned Amino Acid The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs Numbering between the numbering. It is recommended to delete any tabs and use spacing between the numbers. This file was not saved in ASCII (DOS) text, as required by the Sequence Rules. Non-ASCII Please ensure your subsequent submission is saved in ASCII text so that it can be processed. 6 ____ Variable Length Sequence(s) _____ contain n's or Xaa's which represented more than one residue. As per the rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the (ix) feature section that some may be missing. Patentin ver. 2.0 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid . Normally, Patentin would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies primarily to the mandatory <220>-<223> sections for Artificial or Unknown sequences. **Skipped Sequences** Sequence(s) _ missing. If intentional, please use the following format for each skipped sequence: (OLD RULES) (2) INFORMATION FOR SEQ ID NO:X: (i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS") (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: This sequence is intentionally skipped Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s). Skipped Sequences Sequence(s) ____ missing. If intentional, please use the following format for each skipped sequence. (NEW RULES) <210> sequence id number <400> sequence id number 000 Use of n's or Xaa's Use of n's and/or Xaa's have been detected in the Sequence Listing. (NEW RULES) Use of <220> to <223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents. Use of <213>Organism are missing this mandatory field or its response. (NEW RULES) 12 ____ Use of <220>Feature Sequence(s) ____ are missing the <220>Feature and associated headings. Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial" or "Unknown" (NEW RULES) Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)

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13 _____ Patentin ver. 2.0 "bug"

OIPE

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RAW SEQUENCE LISTING
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                     PATENT APPLICATION: US/09/757,100
                                                             TIME: 14:24:27
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                     Output Set: N:\CRF3\02052001\I757100.raw
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      8
              Nero, Pamela S.
                                                                                          global errors
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             Expression
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C--> 17 <141> CURRENT FILING DATE: 2001-01-09
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     23 <151> PRIOR FILING DATE: 2000-07-13
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     32 <213> ORGANISM: Homo sapiens
     34 <220> FEATURE:
     35 <221> NAME/KEY: CDS
     36 <222> LOCATION: (233)..(3391)
     38 <300> PUBLICATION INFORMATION:
     39 <303> JOURNAL: DNA
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wrapped text and
numbers. see # 1,2
numbers. see Summary
on the Error
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     41 <305> ISSUE: 9
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     44 <308> DATABASE ACCESSION NO: L13616/Genbank
     45 <309> DATABASE ENTRY DATE: 1995-01-02
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E--> 51 gccgccccgt
                    cgtcgtctgc cttcgcttca cggcqccgag
    52 agcagaactg 120-
                                                         tgcagtttcc 🧳
E--> 54 gggctccctt
                     gcatcttcca gttacaaatt cagtgccttc
     55 ccagagetee 180 -
E--> 57 tcaagaataa  cggaagggag aatatgacag atacctagca tctagcaaaa
                                                                 ta
                                                                             Sheet.
     58 atg gca 238 -
     60 Met Ala
     62 1.
E--> 64 gct gct tac ctt gac ccc aac ttg aat cac aca cca aat tcg agt
     65 act 286 -
     66 Ala Ala Tyr Leu Asp Pro Asn Leu Asn His Thr Pro Asn Ser Ser
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The types of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

PATENT APPLICATION: US/09/757,100

DATE: 02/05/2001 TIME: 14:24:27

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Output Set: N:\CRF3\02052001\I757100.raw

W--> 67 Thr 15 10 W--> 68 5 E--> 70 aag act cac ctg ggt act ggt atg gaa cgt tct cct ggt gca atg 71 gag 334 72 Lys Thr His Leu Gly Thr Gly Met Glu Arg Ser Pro Gly Ala Met W--> 73 Glu 25 W--> 74 2.0 3.0 E--> 76 cga gta tta aag gtc ttt cat tat ttt gaa agc aat agt gag cca 77 acc 382 78 Arg Val Leu Lys Val Phe His Tyr Phe Glu Ser Asn Ser Glu Pro W--> 79 Thr 08 <--W E--> 81 50 E--> 83 acc tgg gcc agt att atc agg cat gga gat gct act gat gtc agg 84 ggc 430 85 Thr Trp Ala Ser Ile Ile Arg His Gly Asp Ala Thr Asp Val Arg W--> 86 Gly 55 W--> 87 60 E--> 89 atc att cag aag ata gtg gac agt cac aaa gta aag cat gtg gcc 90 tgc 478 91 Ile Ile Gln Lys Ile Val Asp Ser His Lys Val Lys His Val Ala W--> 92 Cys 70 75 W--> 93 E--> 95 tat gga ttc cgc ctc agt cac ctg cgg tca gag gag gtt cac tgg 96 ctt 526 97 Tyr Gly Phe Arg Leu Ser His Leu Arg Ser Glu Glu Val His Trp W--> 98 Leu W--> 99 85 90 E--> 101 cac gtg gat atg ggc gtc tcc agt gtg agg gag aag tat gag ctt 102 gct 574 103 His Val Asp Met Gly Val Ser Ser Val Arg Glu Lys Tyr Glu Leu W--> 104 Ala W--> 105 100 105 E--> 107 cac cca cca gag gag tgg aaa tat gaa ttg aga att cgt tat ttg 108 cca 622 109 His Pro Pro Glu Glu Trp Lys Tyr Glu Leu Arg Ile Arg Tyr Leu W--> 110 Pro W--> 111 115 120 E--> 112 130 E--> 114 aaa gga ttt cta aac cag ttt act gaa gat aag cca act ttg aat 115 ttc 670 116 Lys Gly Phe Leu Asn Gln Phe Thr Glu Asp Lys Pro Thr Leu Asn W--> 117 Phe 140 135 W--> 118 E--> 120 ttc tat caa cag gtg aag agc gat tat atg tta gag ata gct gat 121 caa 718 122 Phe Tyr Gln Gln Val Lys Ser Asp Tyr Met Leu Glu Ile Ala Asp W--> 123 Gln W--> 124 150 155 160

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PATENT APPLICATION: US/09/757,100

DATE: 02/05/2001 TIME: 14:24:27

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Output Set: N:\CRF3\02052001\I757100.raw

E--> 126 gtg gac cag gaa att gct ttg aag ttg ggt tgt cta gaa ata cgg 127 cga 766 128 Val Asp Gln Glu Ile Ala Leu Lys Leu Gly Cys Leu Glu Ile Arg W--> 129 Arg 170 165 W--> 1.30E--> 132 toa tac tgg gag atg cgg ggc aat gca cta gaa aag aag tot aac 133 tat 814 134 Ser Tyr Trp Glu Met Arg Gly Asn Ala Leu Glu Lys Lys Ser Asn W--> 135 Tyr 180 185 W--> 136 190 E--> 138 gaa gta tta gaa aaa gat gtt ggt tta aag cga ttt ttt cct aag 139 agt 140 Glu Val Leu Glu Lys Asp Val Gly Leu Lys Arg Phe Phe Pro Lys W--> 141 Ser W--> 142 195 200 E--> 143 210 E--> 145 tta ctg gat tct gtc aag gcc aaa aca cta aga aaa ctg atc caa 146 caa 910 147 Leu Leu Asp Ser Val Lys Ala Lys Thr Leu Arg Lys Leu Ile Gln W--> 148 Gln W--> 149 215 220 E--> 151 aca ttt aga caa ttt gcc aac ctt aat aga gaa agt att ctg 1.52 aaa 958 153 Thr Phe Arg Gln Phe Ala Asn Leu Asn Arg Glu Glu Ser Ile Leu W--> 154 Lys W--> 155 230 235 E--> 157 ttc ttt gag atc ctg tct cca gtc tac aga ttt gat aag gaa tgc 158 ttc 1006 159 Phe Phe Glu Ile Leu Ser Pro Val Tyr Arg Phe Asp Lys Glu Cys W--> 160 Phe W--> 161 245 250 255 E--> 163 aag tgt gct ctt ggt tca agc tgg att att tca gtg gaa ctg gca 164 atc 1054 165 Lys Cys Ala Leu Gly Ser Ser Trp Ile Ile Ser Val Glu Leu Ala W--> 166 Ile W--> 167 260 265 E--> 169 ggc cca gaa gaa gga atc agt tac cta acg gac aag ggc tgc aat 170 ccc 1102 171 Gly Pro Glu Glu Gly Ile Ser Tyr Leu Thr Asp Lys Gly Cys Asn W--> 172 Pro W--> 173 275 E--> 174 290 E--> 176 aca cat ctt gct gac ttc act caa gtg caa acc att cag tat tca

178 Thr His Leu Ala Asp Phe Thr Gln Val Gln Thr Ile Gln Tyr Ser

E--> 182 agt gaa gac aag gac aga aaa gga atg cta caa cta aaa ata gca

300

295

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177 aac 1150

183 ggt 1198

W--> 179 Asn W--> 180

PATENT APPLICATION: US/09/757,100

DATE: 02/05/2001 TIME: 14:24:27

Input Set : A:\isph-533.seq.asc
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184 Ser Glu Asp Lys Asp Arg Lys Gly Met Leu Gln Leu Lys Ile Ala W--> 185 Gly 315 W--> 186 310 E--> 188 gca ccc gag cct ctg aca gtg acg gca cca tcc cta acc att gcg 189 gag 1246 190 Ala Pro Glu Pro Leu Thr Val Thr Ala Pro Ser Leu Thr Ile Ala W--> 191 Glu 325 330 W--> 192 E--> 194 aat atg gct gac cta ata gat ggg tac tgc cgg ctg gtg aat gga 195 acc 1294 196 Asn Met Ala Asp Leu fle Asp Gly Tyr Cys Arg Leu Val Asn Gly W--> 197 Thr 345 W--> 1.98 340 E--> 200 tcg cag tca ttt atc atc aga cct cag aaa gaa ggt gaa cgg gct 201 ttg 1342 202 Ser Gln Ser Phe Ile Ile Arg Pro Gln Lys Glu Gly Glu Arg Ala W--> 203 Leu 360 W--> 204 355 E--> 205 370 E--> 207 cca tca ata cca aag ttg gcc aac agc gaa aag caa ggc atg cgg 208 aca 1390 209 Pro Ser Ile Pro Lys Leu Ala Asn Ser Glu Lys Gln Gly Met Arg W--> 210 Thr 375 W--> 211 380 E--> 213 cac gcc gtc tct gtg tca gaa aca gat gat tat gct gag att ata 214 gat 1438 215 His Ala Val Ser Val Ser Glu Thr Asp Asp Tyr Ala Glu Ile Ile W--> 216 Asp W--> 217 390 395 E--> 219 gaa gaa gat act tac acc atg ccc tca acc agg gat tat gag att 220 caa 1486 221 Glu Glu Asp Thr Tyr Thr Met Pro Ser Thr Arg Asp Tyr Glu Ile W--> 222 Gln 410 W--> 223 E--> 225 aga gaa aga ata gaa ctt gga cga tgt att gga gaa ggc caa ttt 226 gga 1534 227 Arg Glu Arg Ile Glu Leu Gly Arg Cys Ile Gly Glu Gly Gln Phe W--> 228 Gly W--> 229 420 425 E--> 231 gat gta cat caa ggc att tat atg agt cca gag aat cca gct ttg 232 gcg 1.582 233 Asp Val His Gln Gly Ile Tyr Met Ser Pro Glu Asn Pro Ala Leu W--> 234 Ala W--> 235 435 440 E--> 236 450 E--> 238 gtt gca att aaa aca tgt aaa aac tgt act tcg gac agc gtg aga 239 gag 1630 240 Val Ala Ile Lys Thr Cys Lys Asn Cys Thr Ser Asp Ser Val Arg W--> 241 Glu

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PATENT APPLICATION: US/09/757,100

DATE: 02/05/2001 TIME: 14:24:27

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300 gtg 2110 301 Cys Met Trp Glu Ile Leu Met His Gly Val Lys Pro Phe Gln Gly W--> 302 Val W--> 303 615 620 E--> 305 aag aac aat gat gta atc ggt cga att gaa aat ggg gaa aga tta 306 cca 2158 307 Lys Asn Asn Asp Val Tle Gly Arg Tle Glu Asn Gly Glu Arg Leu W--> 308 Pro 630 635 W--> 309 E--> 311 atg cct cca aat tgt cct cct acc ctc tac agc ctt atg acg aaa 312 tgc 2206 313 Met Pro Pro Asn Cys Pro Pro Thr Leu Tyr Ser Leu Met Thr Lys W--> 314 Cys W--> 315 650 E--> 317 tgg gcc tat gac ccc agc agg cgg ccc agg ttt act gaa ctt aaa 318 gct 2254 319 Trp Ala Tyr Asp Pro Ser Arg Arg Pro Arg Phe Thr Glu Leu Lys W--> 320 Ala W--> 321 660 665 E--> 323 cag ctc agc aca atc ctg gag gaa gag aag gct cag caa gaa gag 324 cgc 2302 325 Gln Leu Ser Thr Ile Leu Glu Glu Glu Lys Ala Gln Gln Glu Glu W--> 326 Arg W--> 327 675 E--> 328 690 E--> 330 atg agg atg gag tcc aga aga cag gcc aca gtg tcc tgg gac tcc 331 gga 2350 332 Met Arg Met Glu Ser Arg Arg Gln Ala Thr Val Ser Trp Asp Ser W--> 333 Gly W--> 334 695 700 E--> 336 ggg tct gat gaa gca ccg ccc aag ccc agc aga ccg ggt tat ccc 337 agt 2398 338 Gly Ser Asp Glu Ala Pro Pro Lys Pro Ser Arg Pro Gly Tyr Pro W--> 339 Ser W--> 340 710 715 E--> 342 ccg agg tcc agc gaa gga ttt tat ccc agc cca cag cac atg gta 343 caa 2446 344 Pro Arg Ser Ser Glu Gly Phe Tyr Pro Ser Pro Gln His Met Val W--> 345 Gln W--> 346 725 730 E--> 348 acc aat cat tac cag gtt tct ggc tac cct ggt tca cat gga atc 349 aca 2494 350 Thr Asn His Tyr Gln Val Ser Gly Tyr Pro Gl γ Ser His Gly Ile W--> 351 Thr W--> 352 740 745 E--> 354 gcc atg gct ggc agc atc tat cca ggt cag gca tct ctt ttg gac 355 caa 2542 356 Ala Met Ala Gly Ser Ile Tyr Pro Gly Gln Ala Ser Leu Leu Asp W--> 357 Gln

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PATENT APPLICATION: US/09/757,100

DATE: 02/05/2001 TIME: 14:24:27

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Input Set : A:\isph-533.seq.asc
Output Set: N:\CRF3\02052001\I757100.raw

ataagtttaa ccacactttg atttgggttc atttttgtt E--> 477 tctttctcat 478 ttgttttttt 3591 E--> 480 caatcatgat attcagaaaa atccaggatc caaaatgtgg cgtttttcta 481 agaatgaaaa 3651 E--> 483 ttatatgtaa gcttttaagc atcatgaaga acaatttatg ttcacattaa 484 gatacgttct 3711 E--> 486 aaagggggat ggccaagggg tgacatctta attcctaaac 487 gcatagtgga 3771 E:-> 489 agaggagagc tagaagcaaa 490 3791 493 <210> SEQ ID NO: 2 494 <211> LENGTH: 1052 495 <212> TYPE: PRT 496 <213> ORGANISM: Homo sapiens 498 <400> SEQUENCE: 2 499 Met Ala Ala Ala Tyr Leu Asp Pro Asn Leu Asn His Thr Pro Asn E--> 500 Ser E--> 501 1 503 Ser Thr Lys Thr His Leu Gly Thr Gly Met Glu Arg Ser Pro Gly E--> 504 Ala E--> 505 20 25 507 Met Glu Arg Val Leu Lys Val Phe His Tyr Phe Glu Ser Asn Ser E--> 508 Glu 511 Pro Thr Trp Ala Ser Ile Ile Arg His Gly Asp Ala Thr Asp E--> 512 Val E--> 513 55 515 Arg Gly Ile Ile Gln Lys Ile Val Asp Ser His Lys Val Lys His E--> 516 Val E--> 517 E--> 518 80 520 Ala Cys Tyr Gly Phe Arg Leu Ser His Leu Arg Ser Glu Glu Val E--> 521 His E--> 522 85 524 Trp Leu His Val Asp Met Gly Val Ser Ser Val Arg Glu Lys Tyr E--> 525 Glu E--> 526 105 528 Leu Ala His Pro Pro Glu Glu Trp Lys Tyr Glu Leu Arg Ile Arg E--> 529 Tyr E--> 530 120 532 Leu Pro Lys Gly Phe Leu Asn Gln Phe Thr Glu Asp Lys Pro Thr E--> 533 Leu E--> 534 135 140 536 Asn Phe Phe Tyr Gln Gln Val Lys Ser Asp Tyr Met Leu Glu Ile E--> 537 Ala E--> 538 145 150 E--> 539 160 541 Asp Gln Val Asp Gln Glu Ile Ala Leu Lys Leu Gly Cys Leu Glu

wrapped

 RAW SEQUENCE LISTING
 DATE: 02/05/2001

 PATENT APPLICATION:
 US/09/757,100
 TIME: 14:24:27

Input Set : A:\isph-533.seq.asc Output Set: N:\CRF3\02052001\I757100.raw

E--> 543 165 170 545 Arg Arg Ser Tyr Trp Glu Met Arg Gly Asn Ala Leu Glu Lys Lys E--> 546 Ser 180 185 E--> 547 549 Asn Tyr Glu Val Leu Glu Lys Asp Val Gly Leu Lys Arg Phe Phe E--> 550 Pro 195 200 205 E--> 551 553 Lys Ser Leu Leu Asp Ser Val Lys Ala Lys Thr Leu Arg Lys Leu E--> 554 Ile E--> 555 210 215 557 Gln Gln Thr Phe Arg Gln Phe Ala Asn Leu Asn Arg Glu Glu Ser E--> 558 Ile E--> 559 225 230 E--> 560 240 562 Leu Lys Phe Phe Glu Ile Leu Ser Pro Val Tyr Arg Phe Asp Lys E--> 563 Glu 245 E--> 564 566 Cys Phe Lys Cys Ala Leu Gly Ser Ser Trp Ile Ile Ser Val Glu E--> 567 Leu E--> 568 265 570 Ala Ile Gly Pro Glu Glu Gly Tle Ser Tyr Leu Thr Asp Lys Gly E--> 571 Cys E--> 572 275 280 574 Asn Pro Thr His Leu Ala Asp Phe Thr Gln Val Gln Thr Ile Gln E--> 575 Tyr E--> 576 290 295 578 Ser Asn Ser Glu Asp Lys Asp Arg Lys Gly Met Leu Gln Leu Lys E--> 579 Ile E--> 580 305 E--> 581 320 583 Ala Gly Ala Pro Glu Pro Leu Thr Val Thr Ala Pro Ser Leu Thr E--> 584 Ile E--> 585 587 Ala Glu Asn Met Ala Asp Len Ile Asp Gly Tyr Cys Arg Leu Val E--> 588 Asn E--> 589 340 345 591 Gly Thr Ser Gln Ser Phe Ile Ile Arg Pro Gln Lys Glu Gly Glu E--> 592 Arg 355 360 365 E--> 593 595 Ala Leu Pro Ser Ile Pro Lys Leu Ala Asn Ser Glu Lys Gln Gly E--> 597 370 375 380 599 Arg Thr His Ala Val Ser Val Ser Glu Thr Asp Asp Tyr Ala Glu E--> 600 Ile E--> 601 385 E--> 602 400 604 Ile Asp Glu Glu Asp Thr Tyr Thr Met Pro Ser Thr Arg Asp Tyr E--> 605 Glu E--> 606 405

Wropped

PATENT APPLICATION: US/09/757,100

DATE: 02/05/2001 TIME: 14:24:27

Input Set : A:\isph-533.seq.asc

Output Set: N:\CRF3\02052001\1757100.raw

608 Ile Gln Arg Glu Arg Ile Glu Leu Gly Arg Cys Ile Gly Glu Gly E--> 609 Gln 420 425 E--> 610 612 Phe Gly Asp Val His Gln Gly Ile Tyr Met Ser Pro Glu Asn Pro E--> 613 Ala E--> 614 440 616 Leu Ala Val Ala Ile Lys Thr Cys Lys Asn Cys Thr Ser Asp Ser E--> 617 Val E--> 618 450 455 620 Arg Glu Lys Phe Leu Gln Glu Ala Leu Thr Met Arg Gln Phe Asp E--> 621 His E--> 622 465 E--> 623 480 625 Pro His Ile Val Lys Leu Ile Gly Val Ile Thr Glu Asn Pro Val E--> 626 Trp E--> 627 485 629 The Ile Met Glu Leu Cys Thr Leu Gly Glu Leu Arg Ser Phe Leu E--> 630 Gln E--> 631 500 505 633 Val Arg Lys Tyr Ser Leu Asp Leu Ala Ser Leu Ile Leu Tyr Ala E--> 634 Tyr 515 520 E--> 635 637 Gln Leu Ser Thr Ala Leu Ala Tyr Leu Glu Ser Lys Arg Phe Val E--> 638 His E--> 639 530 641 Arg Asp Ile Ala Ala Arg Asn Val Leu Val Ser Ser Asn Asp Cys E--> 642 Val E--> 643 545 550 E--> 644 560 646 Lys Leu Gly Asp Phe Gly Leu Ser Arg Tyr Met Glu Asp Ser Thr E--> 647 Tyr E--> 648 565 570 650 Tyr Lys Ala Ser Lys Gly Lys Leu Pro Ile Lys Trp Met Ala Pro E--> 651 Glu E--> 652 580 585 654 Ser Ile Asn Phe Arg Arg Phe Thr Ser Ala Ser Asp Val Trp Met E--> 655 Phe E--> 656 658 Gly Val Cys Met Trp Glu Tle Leu Met His Gly Val Lys Pro Phe E--> 659 Gln E--> 660 610 615 662 Cly Val Lys Asn Asn Asp Val Ile Gly Arg Ile Glu Asn Gly Glu E--> 663 Arg E--> 664 625 630 E--> 665 640 666 Leu Pro Met Pro Pro Asn Cys Pro Pro Thr Leu Tyr Ser Leu Met E--> 667 Thr E--> 668 645 650 670 Lys Cys Trp Ala Tyr Asp Pro Ser Arg Arg Pro Arg Phe Thr Glu

wrapped

RAW SEQUENCE LISTING PATENT APPLICATION: US/09/757,100

DATE: 02/05/2001 TIME: 14:24:27

Input Set : A:\isph-533.seq.asc

Output Set: N:\CRF3\02052001\1757100.raw

E--> 671 Leu 660 665 E--> 672 674 Lys Ala Gln Leu Ser Thr Ile Leu Glu Glu Glu Lys Ala Gln Gln E--> 675 Glu E--> 676 680 678 Glu Arg Met Arg Met Glu Ser Arg Arg Glu Ala Thr Val Ser Trp E--> 679 Asp 695 E--> 680 682 Ser Gly Gly Ser Asp Glu Ala Pro Pro Lys Pro Ser Arg Pro Gly E--> 684 705 E--> 685 720 687 Pro Ser Pro Arg Ser Ser Glu Gly Phe Tyr Pro Ser Pro Gln His E--> 688 Met E--> 689 691 Val Gln Thr Asn His Tyr Gln Val Ser Gly Tyr Pro Gly Ser His E--> 692 Gly 740 745 695 Ile Thr Ala Met Ala Gly Ser Ile Tyr Pro Gly Gln Ala Ser Leu E--> 696 Leu 760 E--> 697 755 699 Asp Gln Thr Asp Ser Trp Asn His Arg Pro Gln Glu Ile Ala Met E--> 700 Trp E--> 701 775 703 Glm Pro Asm Val Glu Asp Ser Thr Val Leu Asp Leu Arg Gly Ile E--> 704 Gly E--> 705 785 E--> 706 800 708 Gln Val Leu Pro Thr His Leu Met Glu Glu Arg Leu Ile Arg Gln E--> 709 Gln E--> 710 805 810 712 Gln Glu Met Glu Glu Asp Gln Arg Trp Leu Glu Lys Glu Glu Arg E--> 713 Phe 820 825 E--> 714 716 Leu Lys Pro Asp Val Arg Leu Ser Arg Gly Ser Ile Asp Arg Glu E--> 717 Asp 840 E--> 718 720 Gly Ser Leu Gln Gly Pro Ile Gly Asn Gln His Ile Tyr Gln Pro E--> 721 Val E--> 722 850 855 724 Gly Lys Pro Asp Pro Ala Ala Pro Pro Lys Lys Pro Pro Arg Pro E--> 725 Glv E--> 726 865 870 E--> 727 880 729 a Pro Gly His Leu Gly Ser Leu Ala Ser Leu Ser Ser Pro Ala E--> 730 Asp 890 E--> 731 885 733 Ser Tyr Asn Glu Gly Val Lys Leu Gln Pro Gln Glu Ile Ser Pro

wrapped

Input Set : A:\isph-533.seq.asc Output Set: N:\CRF3\02052001\I757100.raw E--> 735 905 737 Pro Thr Ala Asn Leu Asp Arg Ser Asn Asp Lys Val Tyr Glu Asn E--> 738 Val E--> 739 741 Thr Gly Leu Val Lys Ala Val Ile Glu Met Ser Ser Lys Ile Gln È--> 742 Pro E--> 743 930 935 745 Ala Pro Pro Glu Glu Tyr Val Pro Met Val Lys Glu Val Gly Leu E--> 746 Ala E--> 747 945 950 wrapped E--> 748 960 750 Leu Arg Thr Leu Leu Ala Thr Val Asp Glu Thr Ile Pro Leu Leu E--> 751 Pro E--> 752 965 754 Ala Ser Thr His Arg Glu Ile Glu Met Ala Gln Lys Leu Leu Asn E--> 755 Ser E--> 756 985 757 Asp Leu Gly Glu Leu Ile Asn Lys Met Lys Leu Ala Gln Gln Tyr E--> 758 Val 1000 761 Met Thr Ser Leu Gln Gln Glu Tyr Lys Lys Gln Met Leu Thr Ala E--> 762 Ala E--> 763 1010 1015 765 His Ala Leu Ala Val Asp Ala Lys Asn Leu Leu Asp Val Ile Asp E--> 766 Gln E--> 767 025 1035 1030 E--> 768 1040 770 Ala Arg Leu Lys Met Leu Gly Gln Thr Arg Pro His E--> 771 1045 774 <210> SEQ ID NO: 3 775 <211> LENGTH: 20 776 <212> TYPE: DNA 777 <213> ORGANISM: Artificial Sequence 779 <220> FEATURE: 780 <223> OTHER INFORMATION: antisense sequence 782 <400> SEQUENCE: 3 E--> 783 ccgcgggctc acagtggtcg 784 20 787 <210> SEQ ID NO: 4 788 <21.1> LENGTH: 20 789 <212> TYPE: DNA 790 <213> ORGANISM: Artificial Sequence 792 <220> FEATURE: 793 <223> OTHER INFORMATION: antisense sequence 795 <400> SEQUENCE: 4 E--> 796 ggcgccgtga agcgaaggca 797 20 800 <210> SEQ LD NO: 5

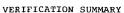
DATE: 02/05/2001

TIME: 14:24:27

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/757,100

801 <211> LENGTH: 20



PATENT APPLICATION: US/09/757,100

DATE: 02/05/2001 TIME: 14:24:29

Input Set : A:\isph-533.seq.asc

L:191 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:192 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:197 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1

Output Set: N:\CRF3\02052001\1757100.raw

I:16 M:270 C: Current Application Number differs, Replaced Application Number L:17 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:43 M:285 W: Invalid Journal Date: Wrong YYYY-MM-DD,MMM-YYYY or SEASON-YYYY, Wrong Journal Date:YYYY-MM-DD, MMM-YYYY or Season-YYYY $L: 48\ \text{M}: 254\ \text{E}:\ \text{No. of Bases conflict, LENGTH}: Input: 0\ \text{Counted}: 50\ \text{SEQ}: 1$ M:254 Repeated in SeqNo=1 L:67 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:68 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:73 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ TD:1 L::74 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:79 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:80 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:86 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:87 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:92 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:93 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:98 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:99 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:104 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:105 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:110 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:111 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 I::117 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:118 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:123 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:124 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:129 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 T::130 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:135 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:136 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:141 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:142 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ TD:1 L:148 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ JD:1 L:149 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:154 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:155 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:160 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:161 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:166 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:167 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:172 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:173 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:179 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:180 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:185 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:186 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1

 VERIFICATION SUMMARY
 DATE: 02/05/2001

 PATENT APPLICATION: US/09/757,100
 TIME: 14:24:29

Input Set : A:\isph-533.seq.asc
Output Set: N:\CRF3\02052001\T757100.raw

L:198 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:203 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:204 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:210 M:336 W: Invalid Amino Acid Number in Coding Region, SEO ID:1 L:211 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:216 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:217 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1 L:500 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:2 M:332 Repeated in SeqNo=2 L:783 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:3 L:796 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:4 L:809 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:5 L:822 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:6 L:830 M:283 W: Missing Blank Line separator, <220> field identifier L:834 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:7 L:847 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:8 L:860 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:9 L:873 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:10 L:886 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:11 L:899 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:12 L:911 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:13 L:924 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:14 L:937 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:15 L:950 M:254 E: No. of Bases conflict, LENGTH: Input: 0 Counted: 20 SEQ:16 L:963 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:17 L:971 M:283 W: Missing Blank Line separator, <220> field identifier L:975 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:18 L:988 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:19 L:1001 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:20 L:1014 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:21 L:1027 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:22 L:1040 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:23 L:1052 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:24 L:1065 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:25 L:1078 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:26 L:1091 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:27 L:1104 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:28 L:1112 M:283 W: Missing Blank Line separator, <220> field identifier L:1116 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:29 L:1129 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:30 L:1142 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:31 L:1155 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:32 L:1168 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:33 L:1181 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:34 L:1193 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:35 L:1206 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:36 L:1219 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:37 L:1232 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:38

L:1245 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:39

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/757,100

Input Set : A:\isph-533.seq.asc

Output Set: N:\CRF3\02052001\1757100.raw

DATE: 02/05/2001

TIME: 14:24:29

L:1253 M:283 W: Missing Blank Line separator, <220> field identifier
L:1257 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:40
L:1270 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:41
L:1283 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:15 SEQ:41
L:1295 N:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:43
L:1311 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44
L:1311 M:254 E: No. of Bases conflict, LENGTH:Input:0 Counted:20 SEQ:44